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L. Y. WILLIAMS & F. B. HARRISON.

CAR JOURNAL BOX LID.

APPLICATION FILED NOV. 24, 1905.

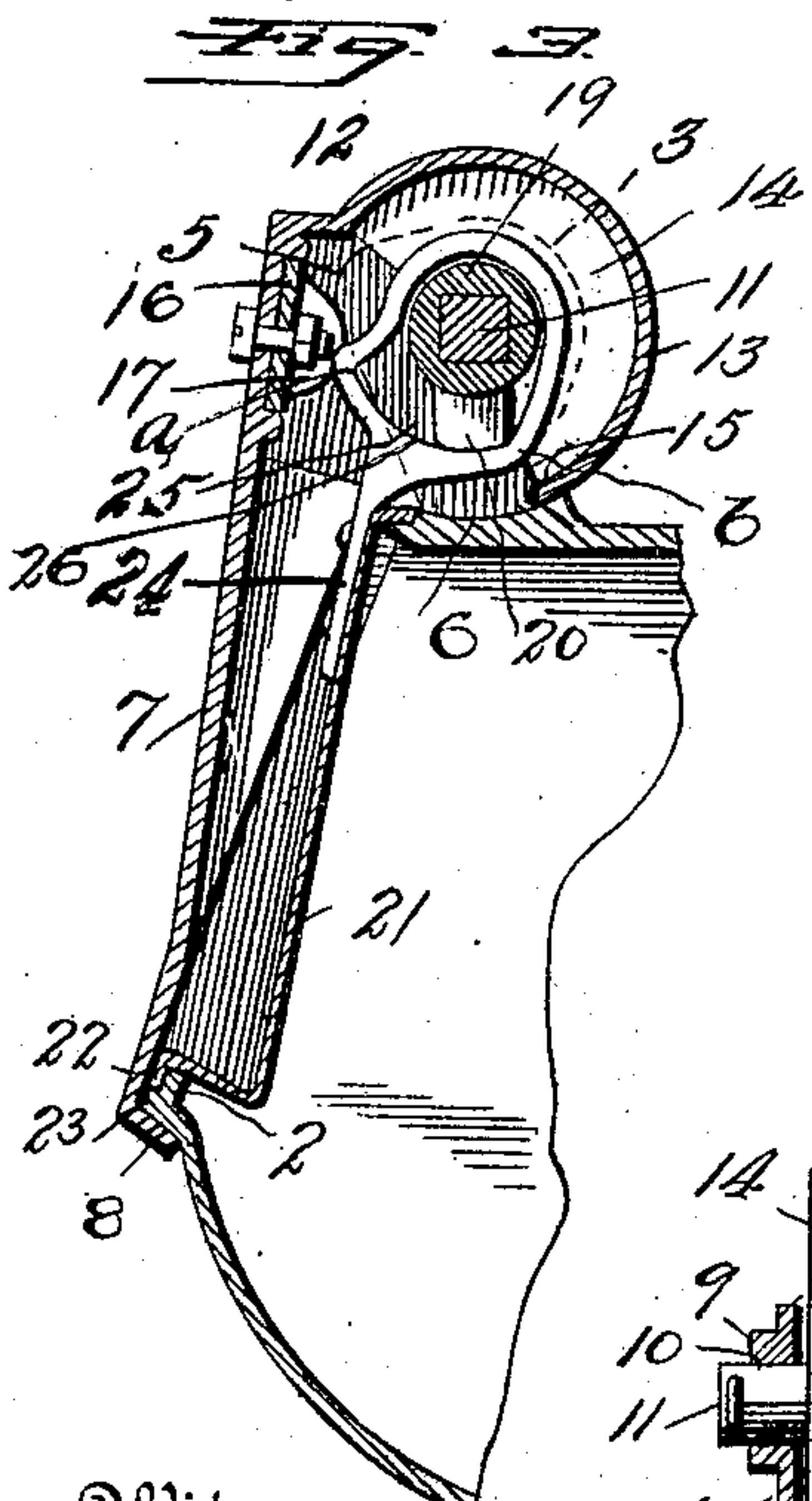
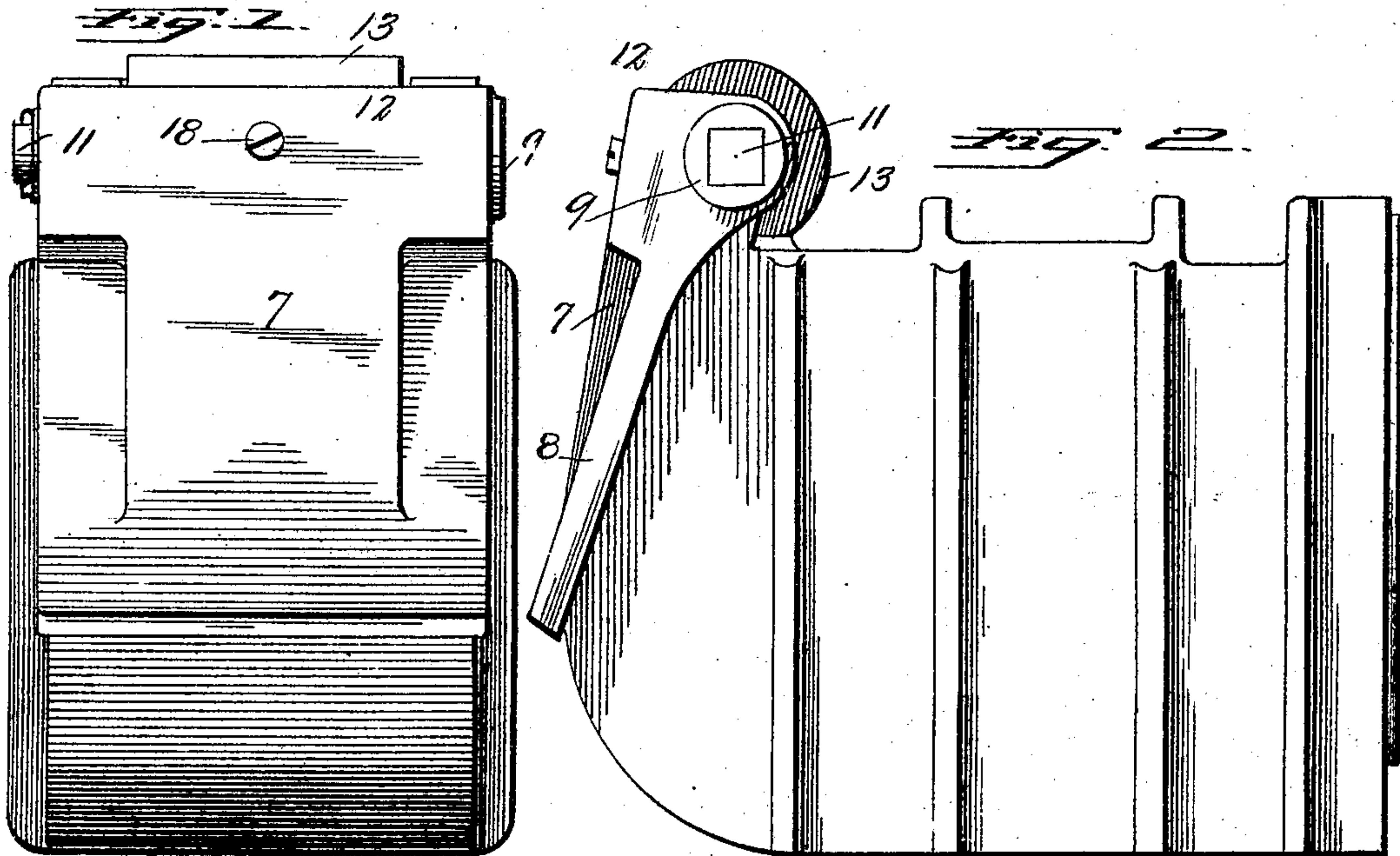


Fig. 4

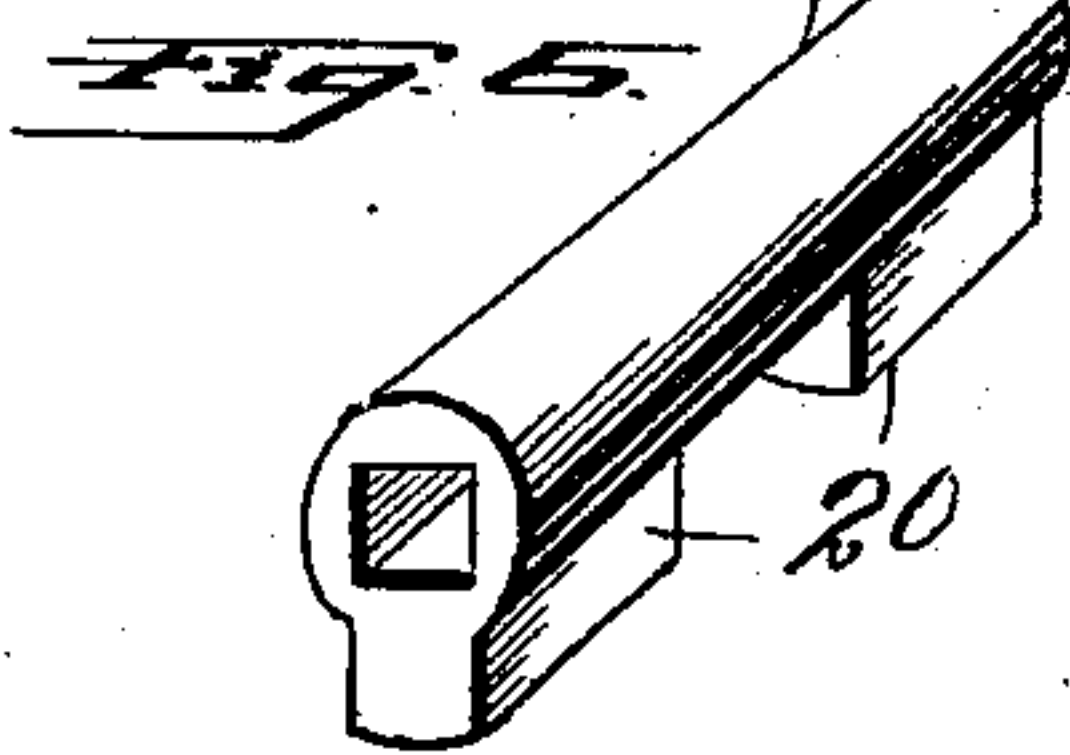
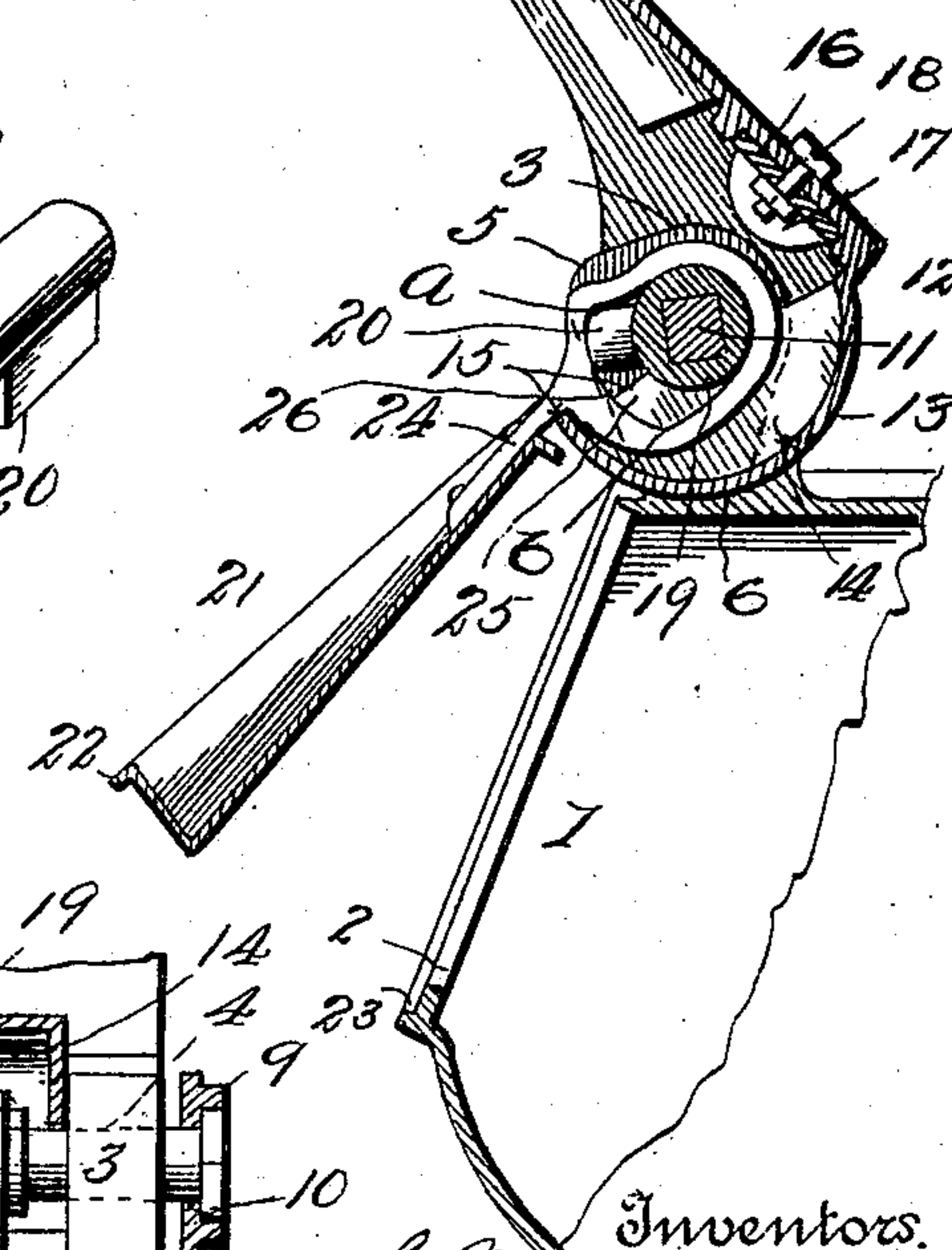
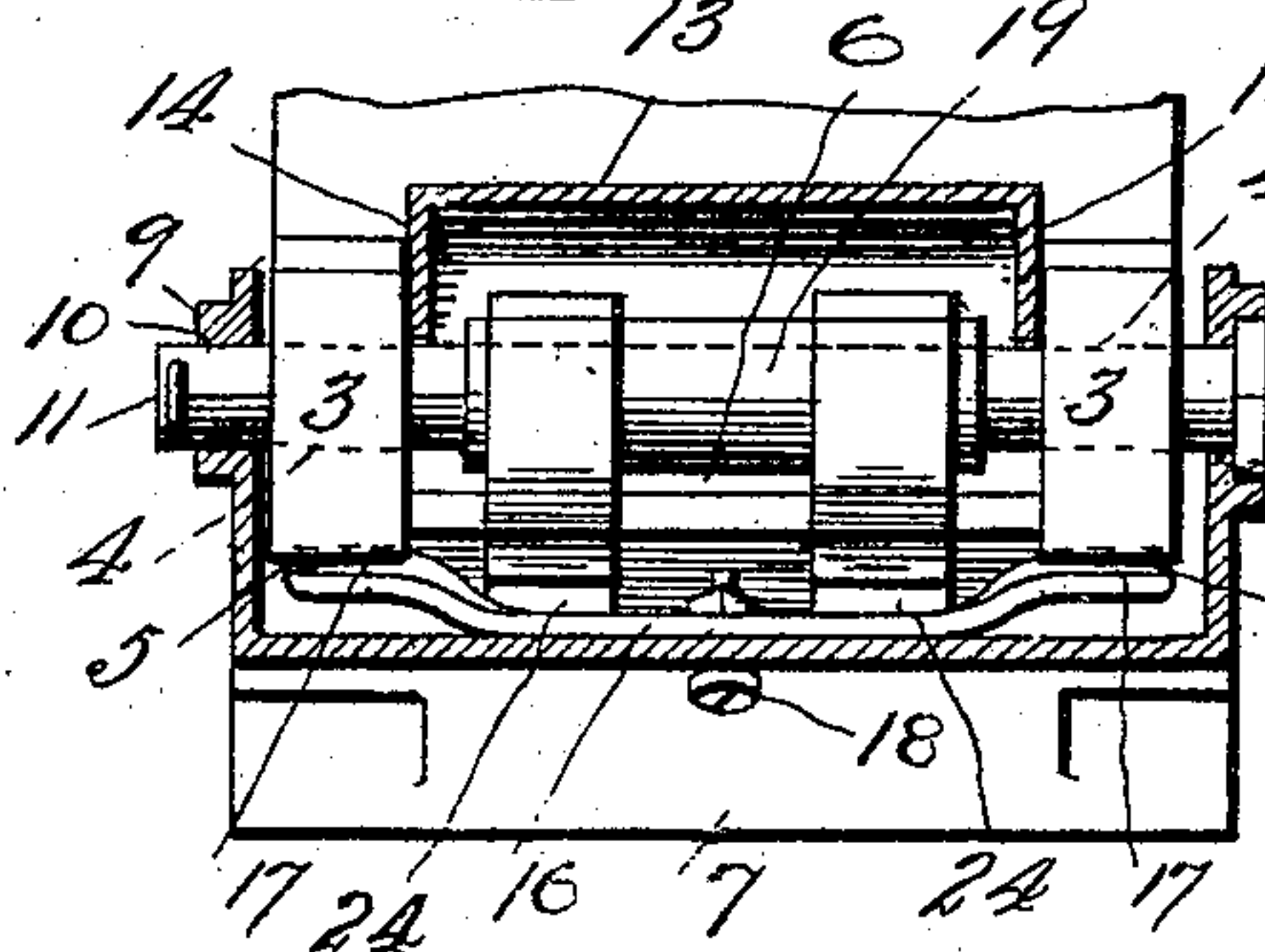


Fig. 5



Witnesses
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UNITED STATES PATENT OFFICE.

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CAR-JOURNAL-BOX LID.

No. 847,140.

Specification of Letters Patent.

Patented March 12, 1907.

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To all whom it may concern:

Be it known that we, LACEY Y. WILLIAMS and FRANK B. HARRISON, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented new and useful Improvements in Car-Journal-Box Lids, of which the following is a specification.

The invention relates to car-journal boxes, and especially to means for closing the opening at the end thereof through which oil and waste are introduced, the object being the production of removable means for closing the opening, so that dust and dirt cannot enter.

The invention consists in certain novelties of construction and combinations of parts hereinafter set forth and claimed.

The accompanying drawings illustrate one example of the physical embodiment of the invention constructed according to the best mode we have so far devised for the practical application of the principle.

Figure 1 is an end view of the journal-box embodying our invention. Fig. 2 is a side view. Fig. 3 is a section through the two lids. Fig. 4 is a section showing the lids in open positions. Fig. 5 is a section taken parallel with the bolt which holds the lids in place. Fig. 6 shows the sleeve with the lugs.

Referring to the several figures, the numeral 1 designates the opening at the end of the box through which oil and waste are introduced; 2, an inwardly-projecting flange bounding the opening; 3, cam-shaped lugs; 4, holes through the lugs; 5, the projecting parts of the lugs; 6, a concave surface at the top of the box and extending between the lugs; 7, the outer lid; 8, the flange of the outer lid; 9, the widened sides of the lid; 10, holes in the sides; 11, a bolt passed through the lugs and holes in the lid, said bolt having a head which is angular and which fits a recess in the cover, so that the bolt and lid rotate together, the body of the bolt also being angular in cross-section; 12, the head of the lid; 13, the curved exterior surface of the head the lid located between the lugs; 14, the end walls of the head of the lid; 15, the inner edge of the head; 16, a curved leaf-spring; 17, convex surfaces at the ends of the spring; 18, a bolt passed through the spring and lid which holds the spring at its center in contact with the lid through the medium of a

nut; 19, a sleeve with an angular hole there- through to fit the angular bolt 11, so the sleeve will not turn upon the bolt; 20, two lugs upon the sleeve having curved outer surfaces; 21, the inner lid; 22, a flange about the edge of the lid; 23, a recess in the metal bounding the opening at the end of the box within which the flange 22 is seated when the lid is closed; 24, two arms secured to the lid; 25, holes in the projecting portions of the arms, said holes being in line with the lugs of the sleeve, as shown; and 26 are cam-surfaces of the holes, each of which extends from *a* to *b*, as shown in Figs. 3 and 4 of the drawing.

The relative location of the parts when assembled is obvious from the drawing and need not be set forth in detail.

The drawing shows the two lids, each hinged to the upper edge of the opening at the end of the box, the axis of rotation of each lid being in a plane substantially parallel with the plane of the lid. In the views the axes of the lids coincide, and this arrangement is preferable. The lids when rotated move toward and away from the opening at the end of the box.

Upon reference to Fig. 3, which shows the lid closed, it will be observed that the curved surface at the rear of the edge 15 of the head is in frictional contact with the concave surface 6 between the lugs, and that dust and dirt cannot enter between the surfaces, that the exterior surfaces of the end walls 14 of the head are in frictional contact with the inner surfaces of the lugs, and that the flange 8 of the lid fits around the opening at the end of the box. There are no open spaces between the box and lid. Further, it will be observed that the curved surfaces of the free ends of the spring are in frictional contact with the surfaces of the lugs directly in front of the projecting portions 5 thereof. The spring ends being under tension hold the lid closed, so that the jarring of the box when the axle and wheels are in motion will not allow the lid to leave its seat. The spring is located parallel with the bolt 11 and within a recess at the upper end of the lid, and slightly curved, as shown, so that when the lid is opened the ends of the spring may bend as the curved surfaces thereof travel over the projecting portion 5 of the lugs.

By reference to the figures it will be seen

that in closing the lid the ends of the spring will engage the cam-surfaces of the lugs, and when they reach the positions shown in Fig. 3 that the lid will be held closed with a force
5 corresponding to the stiffness of the spring.

The inner lid 21 is operated simultaneously with the outer lid when the latter is rotated. When the outer lid is opened, the sleeve 19 rotates with the bolt 11 and the lugs 20 move
10 along the cam-surfaces 26 26 from *b* to *a*, where they stop, and further motion opens the inner lid, as is obvious upon an inspection of Fig. 4. In closing the outer lid the lugs 20 move over the cam-surfaces 26 26
15 from *a* to *b*, and when the outer lid is seated the lugs 20 hold the inner lid firmly and closely to its seat.

In the practical application of the principle of the invention modifications, of course,
20 may be introduced which will not constitute substantial departures.

What we claim is—

1. The combination with a journal-box having an opening at the end, of two lids each
25 of substantially the area of the opening and each hinged to the box at the edge of the opening so that when the lids are closed one will be covered by the other; the axes of the hinges being parallel with the planes of the
30 lids.

2. The combination with a journal-box having an opening at the end, of two lids, each hinged to the box at the top edge of the opening, the axes of the hinges being parallel
35 with the planes of the lids.

3. The combination with a journal-box having an opening at the end, of two lids each hinged to the box at the edge of the opening and one lid entirely covering the
40 other when the lids are closed; said lids having flanges and the axes of the hinges being parallel with the planes of the lids.

4. The combination with a journal-box having an opening at the end, of two lids
45 each hinged to the box at the edge of the opening, the axes of the hinges being parallel with the planes of the lids; and a spring for holding the lids in closed positions.

5. The combination in a journal-box hav-
50 ing an opening at the end, of two lids, each hinged to the box at the edge of the opening, the axes of the hinges being parallel with the planes of the lids; a spring; and an element with a cam-shaped surface which the spring
55 engages when the lids are closed.

6. The combination with a journal-box having an opening at the end, of two lids
60 each hinged to the box at one side of the opening, the axes of the hinges being parallel with the planes of the lids; a spring for holding the outer lid closed; and means in connection with the two lids whereby when the outer lid is moved the inner lid is also oper-
ated.

65 7. The combination with a journal-box, of

two pivoted lids; a bolt, and means in connection with the bolt for operating the inner lid.

8. The combination with a journal-box, of two hinged lids; a bolt located at the axis of
70 the hinges, said bolt being movable with the outer lid; and means in connection with the bolt for holding the inner lid to its seat.

9. The combination with a journal-box, of two lids; a bolt; and a sleeve with a lug en-
75 gaging an element with a cam-surface for holding the inner lid closed.

10. The combination with a journal-box of two lids, a bolt, a sleeve with a lug, and an arm with a cam-surface secured to the inner
80 lid.

11. The combination with a journal-box of two lids, a bolt movable with the outer lid, a sleeve on the bolt having two lugs, and two arms with cam-surfaces secured to the inner
85 lid.

12. The combination with a journal-box of an outer lid, two lugs with cam-surfaces, a spring, a bolt, a sleeve with lugs in connection with the bolt, and an inner lid with arms
90 having cam-surfaces.

13. The combination with a journal-box of an outer lid, means for holding the same to its seat, an inner lid, each of said lids being hinged to the box, a bolt in connection with
95 the lids, and means between the bolt and inner lid for operating and locking said inner lid to its seat.

14. The combination with a journal-box, of two lids; means for hinging each of the lids
100 to the box; spring mechanism for holding the outer lid to its seat; and means for holding the inner lid to its seat.

15. The combination with a journal-box having an opening at the end, of two lids; a
105 bolt located in a horizontal plane at the top edge of the opening for hinging said lids to the box; and means in connection with said bolt for locking the inner lid in a closed position.
110

16. The combination with a journal-box, of two lids; a bolt for pivoting said lids; said bolt being movable with the outer lid; and means operated by said bolt to open the inner lid and also to lock it in a closed position.
115

17. The combination with a journal-box having an end opening, of two lids each directly and separately hinged to the box, and means in connection with said lids whereby when the outer lid is opened the inner lid is
120 also opened.

18. The combination with a journal-box having an end opening with an inwardly-extending flange 2 bounding the opening and forming a recess 23, of an inner hinged lid
125 having a flange, as 22, which is adapted to engage the flange 2 and its edge lie in the recess 23; and an outer lid hinged to the side of the opening, independently of the inner lid and with the axis of the lid in a plane parallel
130

with the lid; the flange, 2 being so located that the outer lid when closed will frictionally engage the edge bounding the opening.

19. The combination with a journal-box 5 having an end opening and a flange as 2 about the opening, of two lids, each being hinged one having a flange to fit the flange 2 about the opening, and the other lid hinged to the side of the opening and with the axis 10 of the hinge in a plane parallel with the lid; a cam-shaped lug in connection with the box; and a spring adapted to engage the surface of the cam-shaped lug and lock the outer lid closed.

15 20. The combination with a journal-box having an opening at the end, of outer and inner lids; means for hinging each lid to the box at one side of the opening, the axes of the hinges being parallel with the planes of the 20 lids, and means operated by the outer lid which forces and holds the inner lid to its seat.

21. The combination with a journal-box

having an opening at the end, of two lids; means for hinging the outer lid to the edge 25 of the opening, said means comprising two perforated lugs and a bolt secured to the lid so that both said bolt and lid move together; and means carried and operated by the said bolt for forcing and holding the inner lid to 30 its seat.

22. The combination with a journal-box having an end opening and perforated lugs, of an outer lid with perforated sides and a head; an inner lid; a bolt by which the outer 35 and inner lids are hinged to the lugs; and means for holding the outer lid to its seat when closed.

In testimony whereof we affix our signatures in presence of two witnesses.

LACEY Y. WILLIAMS.
FRANK B. HARRISON.

Witnesses:

NORA RAMPE,
LEOLA G. WENDELL.